

CS 1323 Fall 2023

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- a)

accumulator	count
0	5
5	6
11	7
18	8
26	

```
int sum = 80;
for (int count = 0; sum / 2 < 5; ++count)
{
    count = count + 1;
    sum = sum + count;
}
```

[illegible]

```
int points = 1;
for (int count = 1; points >= 0; count -= 2) // read carefully
{
    count = count + 2;
    points = points * count;
}
```

count	points
1	1
3	3
3	9
3	27
3	81
3	243
3	729
3	2187
3	6561
3	19683
3	59049
3	177147

```
String name = "SleepySunday";
String result = "";
for (int index = 2; index < name.length(); ++index)
{
    result = result + name.charAt(index) + name.charAt(index - 2);
    ++index;
}
```

[illegible]

2. (8 points; 4 points each)

a) Translate the method below to use a while loop instead of a for loop.

```
public static String deleteCharacters(String source, int from, int to)
{
    String result = "";

    for (int index = 0; index < source.length(); ++index)
    {
        char next = source.charAt(index);
        // Only add the characters that are not between
        // from (inclusive) and to (exclusive)
        if (index < from || index >= to)
        {
            result = result + next;
        }
    }

    return result;
}
```

```
public static String deleteCharacters(String source, int from, int to)
{
    String result = "";
    int index = 0;

    while(index < source.length()) {
        char next = source.charAt(index);

        if (index < from || index >= to)
        {
            result = result + next;
        }
        index++;
    }
    return result;
}
```

- b) Rewrite the method below so the while loop is replaced by a for loop. The initialization, test, and increment in the for loop must be non-empty.

```
public static String subString(String source, int from, int to)
{
    String result = "";

    int index = from;
    while (index < to)
    {
        char letter = source.charAt(index);
        result = result + letter;
        index = index + 1;
    }

    return result;
}
```

```
public static String subString2(String source, int from, int to)
{
    String result = "";

    for (int index = from; index < to; ++index)
    {
        char letter = source.charAt(index);
        result += letter;
    }
    return result;
}
```